

### REMARKS

Claims 1-96 are pending in the action. Claims 1-2, 9, 12, 36, 38, 41, 44, 45, 52, 53, 56, 58, 60 and 61 have been amended. New claims 73-96 have been added. No new matter has been added.

The Office rejects claim 2 pursuant to 35 U.S.C. §112, second paragraph as being indefinite. In particular, “the photo detector” does not have antecedent basis. Claim 2 has been amended to remove “photo” before detector. The Applicant contends that “the detector” has antecedent basis and that the rejection is now moot. The Applicant respectfully requests withdrawal of this rejection.

The Office further rejects claims 1-5 and 7-11 under 35 U.S.C. §102 stating that the claims are anticipated by U.S. Patent No. 5,764,797 to Adcock. The Applicant respectfully disagrees and traverses this rejection.

The Adcock reference is directed to a system for modeling handwriting using polynomials. In Adcock, a “user inputs handwriting by writing with an electronic pen on an electronic tablet.” See Adcock, col. 2, lines 59-60. The system includes a computer 12, an electronic pen 14 and an electronic tablet 16, wherein each component is a stand-alone element. See Figure 1. The tablet “obtains data representing the handwriting ..., and inputs the data to the computer 12” (Adcock, col. 3, lines 65-67), wherein the handwriting data is “data representing the x and y motions of the pen 14 as a function of time as the handwriting is written.” Adcock, col. 3, line 67 – col. 4, lines -13. The location of the pen tip is sampled as each stroke in the character is written and the coordinates of each stroke in the character are stored in an array. Adcock, col. 4, lines 29-34. The x,y coordinates of each stroke is transmitted to the computer. Adcock, col. 4, lines 42-43. Once the computer receives the handwriting data, “the computer processes the handwriting data”. Adcock, col. 4, lines 3-4, 42-44. During processing, a polynomial approximation is generated for each stroke of a character (Adcock, col. 4, lines 38-39), wherein “the combined polynomial approximations of the strokes represent the character” (Adcock, col. 4, lines 39-41).

Embodiments of the present invention are directed to a handwriting detection, recognition and storage device. The device comprises a processor, namely, a printed circuit

board and a detector contained within the device. In preferred embodiments, the device is a pen-based device. As handwriting data is received by the detector, quadrature component logic operations are utilized to identify the input signal as an element of a character.

In contrast to Adcock, the processing and detection of the handwriting data is contained within the device. In vast contrast, as evinced from Figure 1 and the description of Adcock, the tablet, a separate component, is a detector which “detects” the handwriting data and transmits the data to the processor, that is, the computer.

As amended, the Adcock reference fails to meet the limitations of claim 1. In particular, Adcock fails to meet a device having a body, “wherein the detector and processor are disposed within the body.” As Adcock fails to meet all of the limitations of claim 1, claim 1 is not anticipated by Adcock. As such, claim 1 is now allowable. As claim 1 is allowable, claims 2-5, 7 and 8, which depend from claim 1, are also allowable.

Further, the Adcock reference fails to meet the limitations of claim 9 as amended. Claim 9 states that the detector “detect[s] an element of the character on the surface”, wherein a processor compares “the element to a set of reference elements and determin[es] therefrom whether the element represents a portion of the character”. In vast contrast, the Adcock system cannot recognize an element of a character. Rather, “the combined polynomial approximations of the stroke represent the character” (Adcock, col. 4, lines 39-41) and thus, the Adcock reference utilizes the combined polynomial approximations to identify a character.

In light of the above arguments, claim 9 is allowable as the detector of the Adcock reference fails to detect “an element of the character on the surface”, wherein a processor compares the “element to a set of reference elements and determin[es] therefrom whether the element represents a portion of the character”. As this language is not met in Adcock, claim 9 is not anticipated by Adcock. As such, claim 9 is now allowable. As claim 9 is allowable, claims 10-11, which depend from claim 9, are also allowable.

The Office further rejects claims 12-45 pursuant to 35 U.S.C. §103(a) as being unpatentable over Adcock in view of U.S. Patent No. 5,509,087 to Nagamine. The Applicant disagrees and respectfully traverses the rejection. Regardless of the traversal, as claims 12-

45 depend, directly or indirectly from claim 1, as claim 1 is allowable over Adcock, these dependent claims are also allowable.

The Office further rejects claims 46-61 pursuant to 35 U.S.C. §103(a) as being unpatentable over Adcock in view of U.S. Patent No. 5,027,115 to Sato et al. The Applicant disagrees and respectfully traverses the rejection. Regardless of the traversal, as claims 46-61 depend, directly or indirectly from claim 1, as claim 1 is allowable over Adcock, these dependent claims are also allowable.

Finally, claims 62-72 are rejected for the same reasons as set forth in the rejection of claims 1-61. The Applicant respectfully disagrees and traverses the rejection.

The Adcock reference fails to meet the limitations of independent claim 62 or claim 66. In particular, with respect to claim 62, Adcock fails to meet the limitations of “illuminating strokes comprising a character marked on a surface”, or “detecting light reflected off the surface”. With respect to claim 66, Adcock fails to meet, in part, the limitation “detecting strokes by directly detecting rotations of the ball”. In Adcock, the handwriting data obtained by the tablet “is data representing the x and y motions of the pen 14 as a function of time”. Adcock, col. 4, lines 1-2. The system of Adcock samples the location (x,y) coordinates of the “tip of the pen on the tablet from pen down until pen up at periodic intervals as each stroke of a character is written”. Adcock, col. 2, lines 61-64. There is no reference or indication that the strokes are illuminated or that any light is detected “off the surface”. Further, Adcock does not teach or suggest detecting the “rotations of the ball”. Rather, Adcock simply determines the x,y position of the pen on the tablet 16. As Adcock fails to meet all of the limitation of independent claims 62 and 66, these claims are allowable. Thus, claims 63-65 and 67-72, which depend, directly or indirectly, from these independent claims are also allowable.

Claims 73-96 have been added. These claims are directed to the detection of quadrature elements and the sampling rate of the detector. New claims 81-94 are directed to the optics class pairing for detection. New claims 95 and 96 are directed to a handwriting device, wherein claim 95 is a combination of original claim 1 and original claim 6.

Amendments to claims 52, 56 and 60 were made solely to correct minor grammatical

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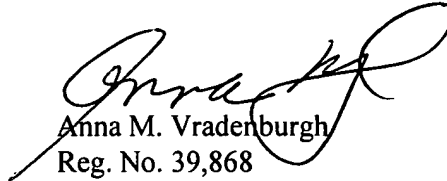
errors.

Applicant notes that claim 6 has not been rejected. As such, Applicant believes that claim 6 is allowable, and thus, believes that claim 95 is allowable.

The Applicant believes that the claims are now in condition for allowance. As such, the Applicant respectfully requests that the Office withdraw the rejections and pass the claims onto allowance.

Respectfully submitted,

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AMV/sac

Enclosures: Request for Ext of Time